AMENDMENTS

In the Claims

1-17 (Cancelled)

18. (Currently Amended) A circuit configuration for evaluating an acceleration sensor according to the Ferraris principle, comprising an inductive measurement head that interacts with a movable Ferraris disk, essentially via a main magneticizing field, and which supplies a variable that is dependent on acceleration, further comprising ~~an additional~~ a direct-current magnetic field excitation circuit having a control loop to cause ~~the additional~~ a direct-current magnetic field to act compensatingly on an eddy-current field occurring from a higher rotational speed of the Ferraris disk ~~compensation windings delivering a direct-current magnetic field compensating the occurring eddy-current field, said~~wherein the direct-current magnetic field excitation circuit controls compensation windings ~~being traversed~~ by a direct current ~~controlled by the additional direct-current magnetic field excitation circuit~~, further comprising a magnetic field sensor provided for measurement of a magnetic field in the sensor, said sensor outputting a signal for regulating the direct current through the compensation windings.

19. (Previously Presented) The circuit according to claim 18, wherein the magnetic field sensor is configured as a Hall sensor or XMR sensor.

20. (Currently Amended) The circuit according to claim 18, wherein, ~~in terms of~~by means of the measurement of the magnetic field sensor ~~a Bmess in~~ the eddy-current field is regulable to a preassignable value, including zero.

21. (Currently Amended) The circuit according to claim 18, further comprising a detector coil to detect a voltage induced by the magnetic field ~~of~~ in the acceleration sensor, including the eddy-current field~~a field in eddy~~.

22. (Currently Amended) The circuit according to claim 18, wherein, a variable proportional to a voltage induced by the magnetic field ~~of~~ in the acceleration sensor, in particular from the eddy-current field~~the field in the eddy~~, is generated by a means of differentiating the measured ~~said~~ magnetic field.

23. (Currently Amended) The circuit according to claims 21 or 22, wherein the direct current yields a low-frequency component of the acceleration, and the voltage induced by the magnetic field ~~of~~ in the acceleration sensor, in particular from the field in the eddy, or the variable proportional ~~thereto~~to the voltage, yields a high-frequency component of the acceleration, and the ~~two signals~~ direct current and the induced voltage or the variable proportional to the voltage are combinable to a broad-band acceleration signal.

24. (Previously Presented) The circuit according to claim 20, wherein, by addition of a measured value of the magnetic field sensor to the compensation current, a broad-band value proportional to the rotational speed is determinable.

25. (Previously Presented) A digitally controlled machine tool, comprising an acceleration sensor according to the Ferraris principle, and an evaluating circuit according to claim 18.

26. (NEW) A arrangement for evaluating an acceleration according to the Ferraris principle, comprising:

- an inductive measurement head that interacts with a movable Ferraris disk, essentially via a main magneticizing field, and which generates a first signal that is dependent on acceleration of the Ferraris disk,
- a magnetic field sensor for measuring a magnetic field in the inductive measurement head,
- an evaluation circuit coupled with the magnetic field sensor for providing the first signal,
- compensation windings arranged in the area of the inductive measurement head for providing a compensating magnetic field which can compensate an eddy-current field occurring from a higher rotational speed of the Ferraris disk,

- an excitation circuit receiving the first signal and generating a second signal fed to the compensation windings for generating the compensating magnetic field.

27. (NEW) The circuit according to claim 26, wherein the magnetic field sensor is configured as a Hall sensor or XMR sensor.

28. (NEW) The circuit according to claim 26, wherein the compensating magnetic field compensates the eddy-current field to a preassignable value, including zero.

29. (NEW) The circuit according to claim 26, further comprising a second sensor to detect a voltage induced by the eddy-current field.

30. (NEW) The circuit according to claim 29, further comprising a differentiator for differentiating the second signal and an adder for adding the voltage weighted by a factor to the differentiated second signal.

31. (NEW) The circuit according to claim 26, further comprising a first differentiator for differentiating the first signal and a second differentiator for differentiating the second signal, and an adder for adding the differentiated first and second signal.

32. (NEW) The circuit according to claim 31, wherein the first signal is weighted by a first factor before it is differentiated and the second signal is weighted by a second factor before it is differentiated.

33. (NEW) The circuit according to claim 32, further comprising a second adder for adding the first signal weighted by the first factor and the second signal weighted by the second factor.